

What is claimed is:

1. An organic EL element comprising:
an organic EL layer formed between an anode and
a cathode; and
5 said cathode consisting of a first conductive
film that contacts to said organic EL layer and a
second conductive film that constitutes a laminated
structure together with said first conductive film,
said first conductive film containing any one of an
10 alkaline metal and an alkaline earth metal, and said
second conductive film containing a metal that is
able to prevent entering of an oxygen and a moisture
into said first conductive film when said metal is
oxidized.
- 15 2. An organic EL element according to claim 1,
wherein said second conductive film contains any one
of at least one type metal selected from a group
consisting of Ru (ruthenium), Rh (rhodium), Ir
(iridium), Os (osmium) and Re (rhenium) and its
20 oxide.
- 25 3. An organic EL element according to claim 1,
wherein said second conductive film is formed of any
one of a TiN film and a laminated film made of TiN
and Ti.
- 25 4. An organic EL element manufacturing method
comprising the steps of:
 forming an anode on a substrate;

forming an organic EL layer on said anodes;

forming a first conductive film, that contains any one of an alkaline metal and an alkaline earth metal, on said organic EL layer; and

5 forming a second conductive film laminated on
said first conductive film and containing a metal
that is able to prevent entering of an oxygen and a
moisture into said first conductive film when said
metal is oxidized.

10 5. An organic EL element manufacturing method
according to claim 4, wherein said second conductive
film contains any one of at least one type metal
selected from a group consisting of Ru (ruthenium),
Rh (rhodium), Ir (iridium), Os (osmium) and Re
15 (rhenium) and its oxide.

6. An organic EL element manufacturing method according to claim 4, wherein said second conductive film is formed of any one of a TiN film and a laminated film made of TiN and Ti.

7. An organic EL element comprising:

an anode;

a buffer layer which is formed of at least one type metal selected from a group consisting of Ru, Mo, and V on said anode and a surface of which is oxidized;

an organic EL layer formed to be contacted to an oxidized surface of said buffer layer; and

a cathode formed on said organic EL layer.

8. An organic EL element according to claim 7, wherein said cathode contains any one of an alkaline metal and alkaline earth metal.

5 9. An organic EL element manufacturing method comprising the steps of:

forming an anode on a substrate;

10 forming a buffer layer, which contains at least one type metal selected from a group consisting of Ru, Mo, and V, on said anode;

oxidizing a surface of said buffer layer;

forming an organic EL layer on said buffer layer; and

15 forming a cathode.

10. An organic EL element manufacturing method according to claim 9, wherein said cathode contains any one of an alkaline metal and an alkaline earth metal.

11. An organic EL display device comprising:

20 a substrate;

a lower electrode formed on said substrate;

an organic EL layer formed on said lower electrode to have areas in which a conjugate length of polymer is different each other so that these 25 areas have two different luminous colors or more; and

an upper electrode formed on said organic EL

layer.

12. An organic EL display device manufacturing method comprising the steps of:

forming a first electrode on a substrate;

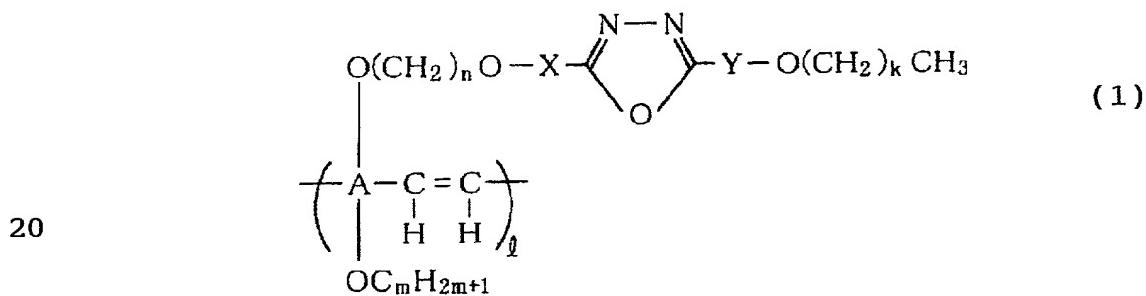
5 forming an organic EL layer formed of organic EL material, in which a conjugate length of polymer is changed in response to light irradiation, on said first electrode;

10 irradiating partially a light onto said organic EL layer to change said conjugate length; and

15 forming a second electrode on said organic EL layer.

13. Organic EL material consisting of:

material made of organic material expressed by a
15 general formula (1)



(Where A is a residue obtained by removing at least four hydrogen atoms from an aromatic compound or a
25 heterocyclic compound,

X is an atomic group to which at least two groups that are selected from a group consisting of

a residue obtained by removing at least two hydrogen atoms from benzene and a residue obtained by removing at least two hydrogen atoms from cyclohexane are bonded,

5 Y is an atomic group to which a residue obtained by removing at least two hydrogen atoms from benzene is bonded or at least two residues each obtained by removing at least two hydrogen atoms from benzene are bonded, and

10 k, m and n are an integer respectively.)

14. Organic EL material according to claim 13, wherein n in said general formula (1) is an integer to satisfy a condition of $5 \leq n \leq 15$, and k is an integer to satisfy a condition of $5 \leq k \leq 15$.

15 15. Organic EL material according to claim 13, wherein A in said general formula (1) is a residue that is obtained by removing four hydrogen atoms from benzene.

20 16. Organic EL material according to claim 13, wherein X in said general formula (1) contains any atomic group in which a biphenylene group or a phenylene group and a cyclohexylene group are bonded.

25 17. Organic EL material according to claim 13, wherein Y in said general formula (1) is a phenylene group.

18. A plane emission device employing organic material, comprising:

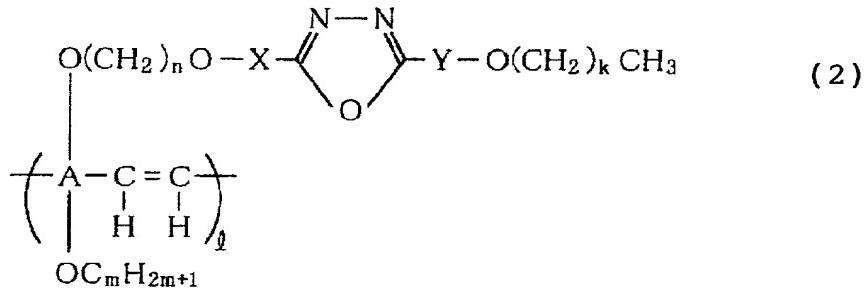
a transparent substrate;

a transparent conductive film for covering one surface of said transparent substrate;

5 an alignment film formed on a surface of said transparent conductive film;

a luminous layer made of organic material expressed by a general formula (2)

10



15

(Where A is a residue obtained by removing at least four hydrogen atoms from an aromatic compound or a heterocyclic compound,

20

X is an atomic group to which at least two groups that are selected from a group consisting of a residue obtained by removing at least two hydrogen atoms from benzene and a residue obtained by removing at least two hydrogen atoms from cyclohexane are bonded,

25

Y is an atomic group to which a residue obtained by removing at least two hydrogen atoms from benzene is bonded or at least two residues each obtained by removing at least two hydrogen atoms

from benzene are bonded, and
 k , m and n are an integer respectively.); and
 an electrode layer formed on a surface of said
 luminous layer.

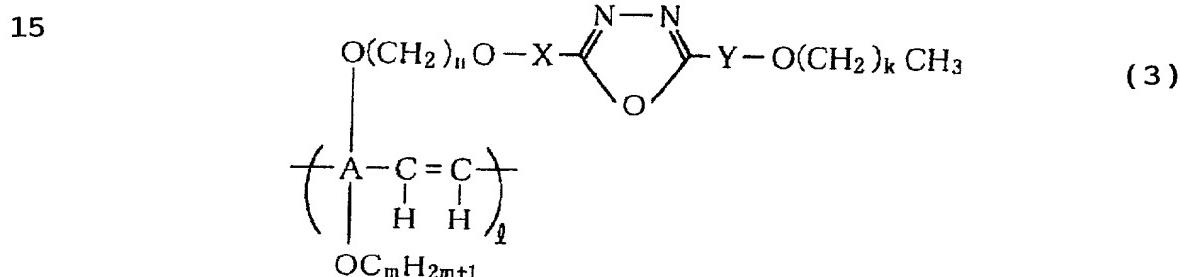
5 19. A display device employing organic material,
 comprising:

a transparent substrate;

a transparent conductive film for covering one
 surface of said transparent substrate;

10 an alignment film formed on a surface of said
 transparent conductive film;

a luminous layer made of organic material
 expressed by a general formula (3)



20 (Where A is a residue obtained by removing at least
 four hydrogen atoms from an aromatic compound or a
 heterocyclic compound,

25 X is an atomic group to which at least two
 groups that are selected from a group consisting of
 a residue obtained by removing at least two hydrogen
 atoms from benzene and a residue obtained by

removing at least two hydrogen atoms from cyclohexane are bonded,

Y is an atomic group to which a residue obtained by removing at least two hydrogen atoms from benzene is bonded or at least two residues each obtained by removing at least two hydrogen atoms from benzene are bonded, and

k, m and n are an integer respectively.);
an electrode layer formed on a surface of said
10 luminous layer;

a liquid crystal layer arranged on a second surface on an opposite side to said first surface of said transparent substrate; and

15 a polarizing plate arranged on said liquid crystal layer.